Supplementary information

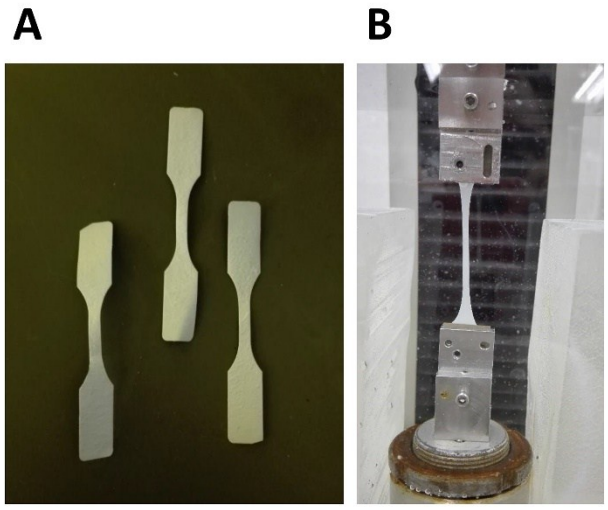

Fig. S1: Dogbone-shaped fiber samples. (A) Dry samples after UV light polymerization. (B) Wet samples during testing for their tensile strength.

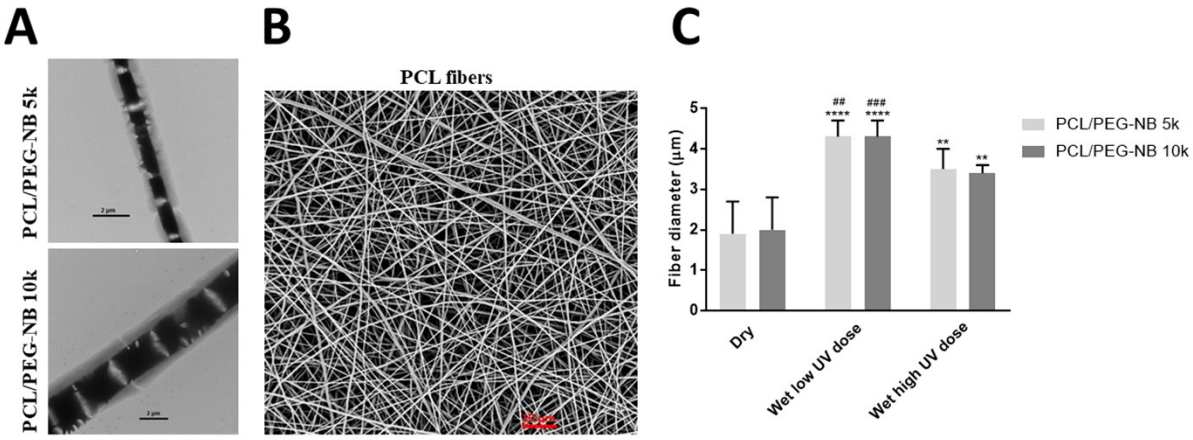

Fig. S2: Electron microscopy images and quantitative analyses of coaxially-structured and PCL fibers. (A) TEM image of discontinuous coaxial fibers. Scale bar = 2 µm. (B) SEM image of PCL fibers. Scale bar = 10 µm. (C) Fiber diameter before and after hydration of coaxial blends from optical imaging. '*' comparing vs. dry, '#' comparing vs. wet high UV dose.

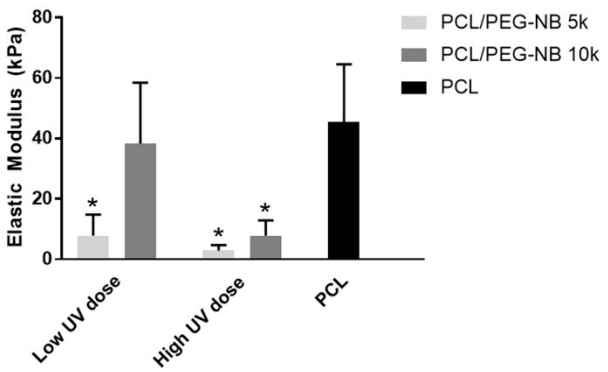

Fig. S3: Elastic modulus of coaxial fibrous scaffolds composed of PCL/PEG-NB 5k, PCL/PEG-NB 10k, and PCL. '*' comparing vs. PCL control.

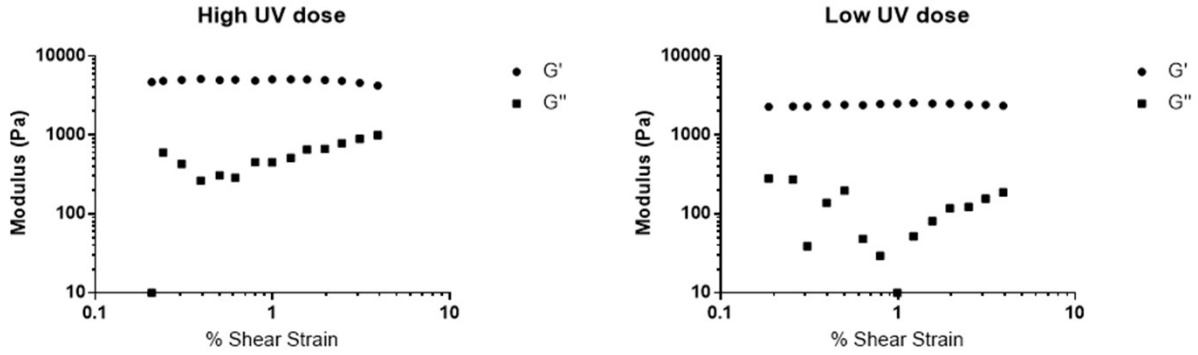

Fig. S4: Viscoelastic property measurements of PCL/PEG-NB 5k scaffold polymerized with high and low UV dose. Representative strain sweep results of G' and G'', from the rheometer measurements.

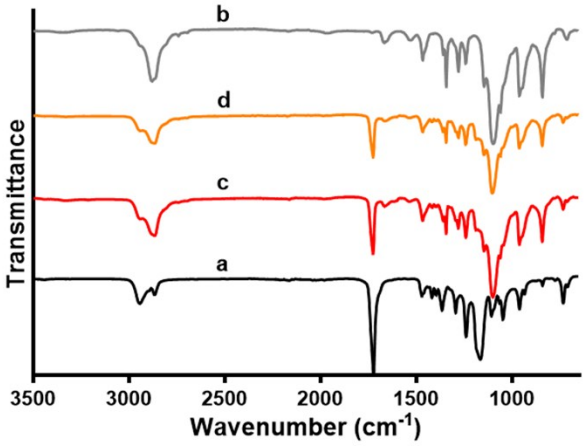

Fig. S5: ATR-FTIR spectra of individual polymers and their coaxial fibers. (a) PCL, (b) PEG-NB 5k, (c-d) PCL/PEG-NB 5k coaxial fibers polymerized at high (c) or low (d) UV dose.

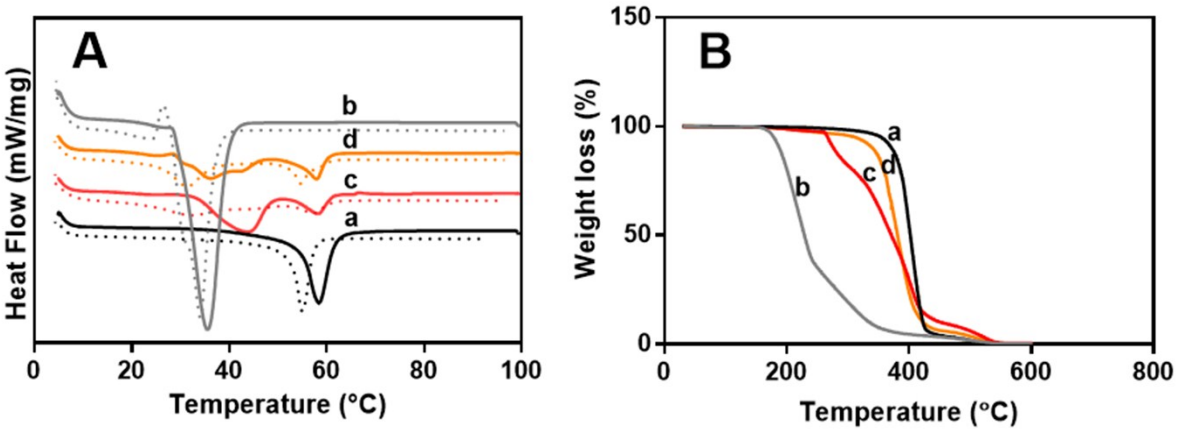

Fig. S6: Results from DSC (A) and TGA (B) measurements of individual polymers and their coaxial fibers. (a) PCL, (b) PEG-NB 5k, (c-d) PCL/PEG-NB 5k coaxial fibers polymerized at high (c) or low (d) UV dose.

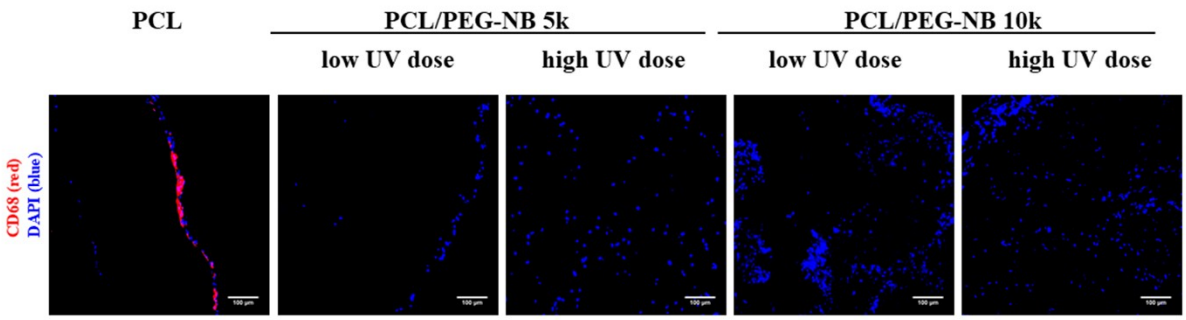

Fig. S7: Evaluation of macrophage presence on the five explanted fiber scaffolds. Fluorescent microscopy images from immunofluorescent staining show CD68 (red) indicating macrophages, and DAPI (blue) indicating cell nuclei. Results demonstrate no macrophage presence in the coaxial scaffolds while some macrophages are detected in the PCL scaffolds. Images were taken at 20X. Scale bars = 100 μm.

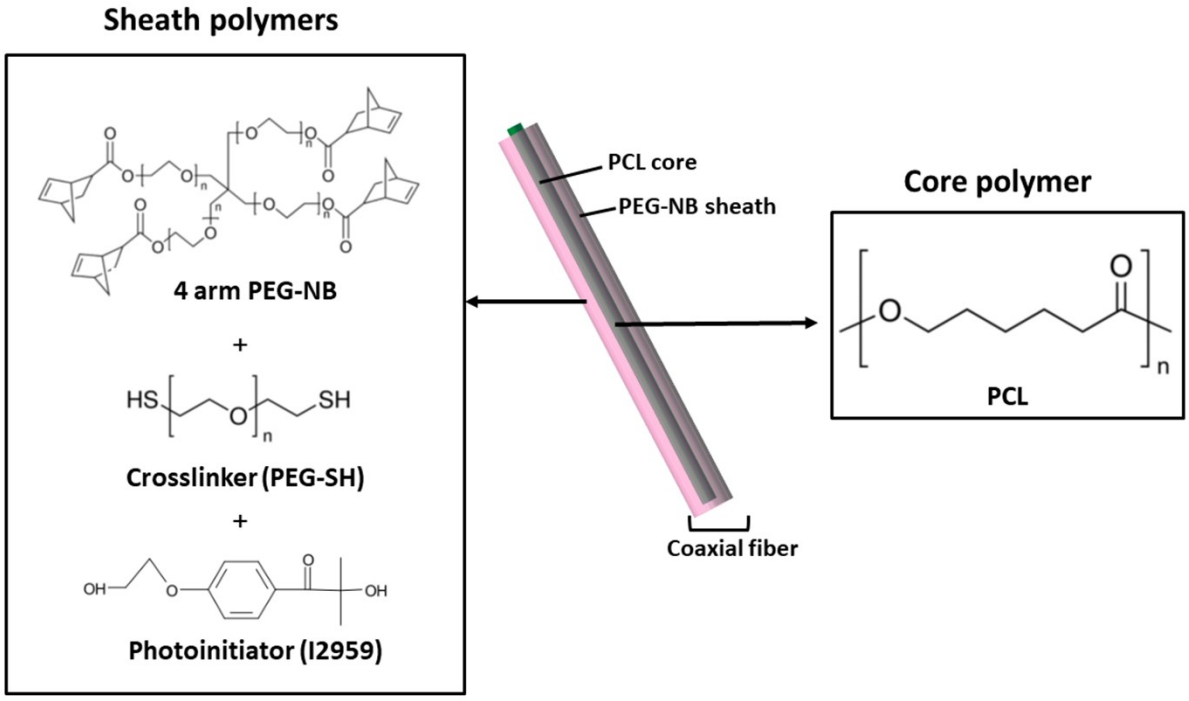

Fig. S8: Composition of the polymers used to make the hydrogel scaffolds, with fibers made with a PCL core and a PEG-NB−PEG-SH sheath.